# Can an Adapted Version of the Diabetes Prevention Program (DPP) Be Delivered Effectively to Adult Medicaid Beneficiaries?

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### Background

- The number of people diagnosed with diabetes has risen from 1.5 million in 1958 to 18.8 million in 2010.<sup>1</sup>
- In 2011, 8.0% of Montana residents aged 18 and older, had diabetes and an estimated 30% were at high-risk to have diabetes. 2,3
- Few studies evaluated delivery of lifestyle interventions promoting weight loss targeting low-income population.

## **Study Objective**

• To assess the feasibility to recruit Medicaid beneficiaries at high-risk for cardiovascular disease (CVD) and Type 2 diabetes into an adapted DPP lifestyle intervention, and to evaluate their weight loss outcomes compared to non-Medicaid participants.

#### Limitations

- Small sample size for Medicaid cohort.
- Males were underrepresented in both cohorts.
- Self-reported physical activity and self-monitoring fat intake.

#### Methods

<u>Sites</u>: The Montana DPHHS began implementing the DPP at 4 health care facilities in 2008 and had expanded to 18 sites by 2013. <u>Lifestyle Coaches</u>: Trained health professionals (RN, RD, CDE, PT).

<u>Intervention</u>: 10-month intensive lifestyle intervention; 16 weekly core sessions followed by 6 monthly post-core sessions. <u>Curriculum</u>: NIH DPP *Lifestyle Balance* curriculum. Sessions include healthy eating, physical activity, and problem solving.<sup>4</sup>

Participant Program Goals: Self-monitor dietary intake and physical activity, decrease fat gram intake, increase moderately intense physical activity to ≥150 min/week, and achieve 7% weight loss.

Recruitment Strategies and Reimbursement: Referring providers, community groups, and employers; paid and earned media, brochures, and word-of-mouth. In 2012, Montana Medicaid included DPP as a covered benefit.

Participant Eligibility Criteria: Aged 18 years and older, BMI ≥25.0 kg/m², plus one or more of the following risk factors for CVD and Type 2 diabetes:

- Diagnosis of prediabetes, IGT, OR IFG
- A1C between 5.7% and 6.4%
- Blood pressure ≥130/85 mmHg or treatment
- Dyslipidemia: triglycerides ≥150 mg/d, LDL cholesterol >130mg/dl or treatment, HDL cholesterol <40mg/dl for men or <50mg/dl for women
- History of gestational diabetes mellitus or gave birth to a baby >9 lbs.

<u>Data Source</u>: Montana Diabetes Prevention Program, Fall 2012-Spring/Summer, 2013.

Inclusion Criteria: Participants who attended at least one session from 13 DPP sites.

<u>Analysis</u>: Multivariable logistic regression models to assess the odds ratios of 5% weight loss and 7% weight loss goal. Independent t-tests for continuous data and chi-square tests for categorical data were used to compare the baseline characteristics between the two groups. Intention-to-treat analyses were performed using the last observed weight of participants enrolled in the program to calculate mean weight loss.

#### Results

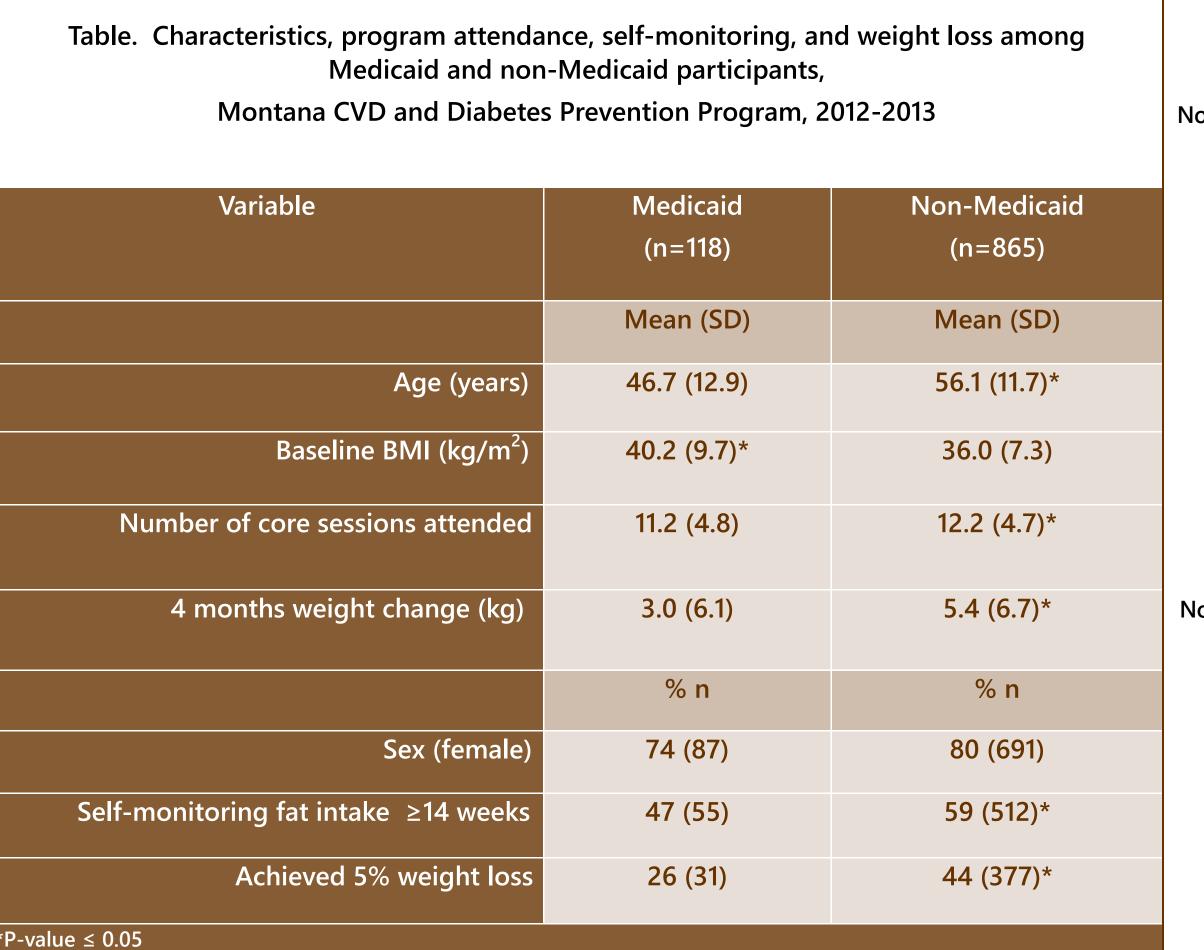
- Enrolled in Fall 2012 through Summer 2013.
- 983 adults were enrolled in a group-based lifestyle intervention.
- 12% (n=118) were Medicaid beneficiaries [Table].
- The non-Medicaid group was more likely to attend more core sessions and to self-monitor fat intake compared to the Medicaid group [Table].
- The Medicaid group was on average 9.4 years younger and had a higher rate of male participants compared to the non-Medicaid group [Table].
- The Medicaid group had a significantly higher baseline body mass index (BMI) compared to the non-Medicaid group [Table].
- The average weight loss was 3.0 and 5.4 kg in the Medicaid and non-Medicaid group, respectively [Table].
- Non-Medicaid participants were more likely to achieve the 7% weight loss goal (32%) compared to Medicaid participants (17%) [Figure 1].
- 59% of Medicaid participants achieved the 150 minutes of weekly physical activity compared to 47% of Non-Medicaid participants [Figure 1]
- Two factors were independently associated with achieving 7% weight loss goal [Figure 2]:
- ⇒ Medicaid participants were 2.1 times less likely to be successful in achieving the goal.
- ⇒ Participants aged 65 years or older were 1.8 times more likely to achieve the goal.

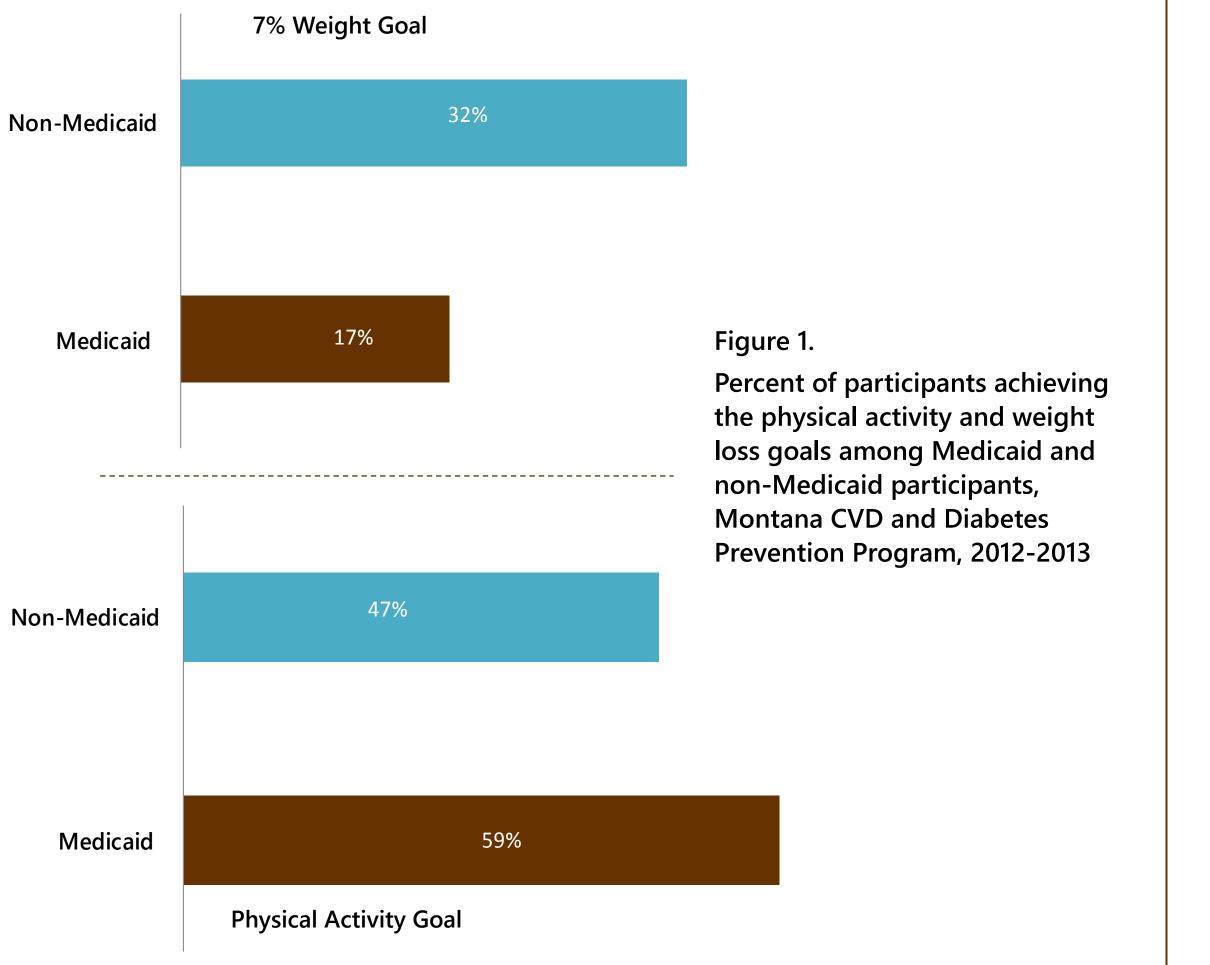
#### **Public Health Implications**

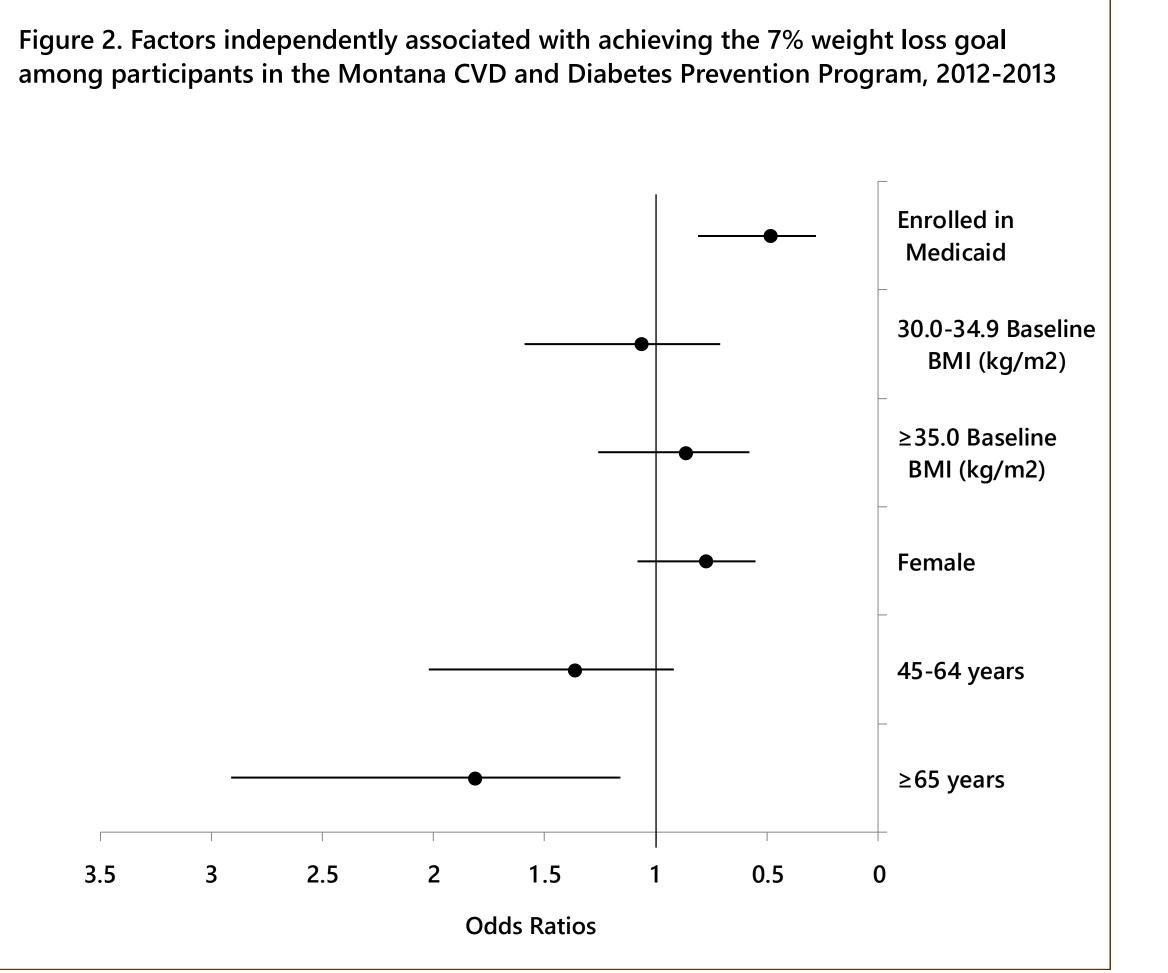
- The implementation of a structured evidence-based lifestyle behavior change program such as DPP is a highly effective method of reducing the risk of Type 2 diabetes and CVD.
- The DPP lifestyle intervention for persons on Medicaid provide substantial health benefit and likely also financial return on investment for Medicaid.

#### Conclusion

- It is feasible to recruit and retain adult Medicaid beneficiaries into an adapted DPP.
- Medicaid participants achieve significant but somewhat lower weight loss compared to non-Medicaid participants.







## References

- National Diabetes Education Program, 2011.
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- 4. DPP Research Group. Diabetes Care 2002;25:2165-71.

